

CLAIMS

1. Process for the preparation of a thermoplastic elastomeric vulcanizate (TPV) comprising a mixture of a polyolefin and a vulcanized rubber, in which the vulcanization of the rubber is performed at elevated temperature under the influence of a peroxide, wherein the peroxide is an organic peroxide having at least one terminal carbon-carbon double bond in the molecule.
- 5 2. Process according to claim 1, wherein the peroxide is an allyl functional peroxide.
- 10 3. Process according to anyone of claims 1-2, wherein the peroxide has a relative solubility ( $\delta_r$ ) of at least 1, wherein  $\delta_r$  is the ratio between the solubility-parameter of the peroxide ( $\delta_{per}$ ) and the solubility-parameter of the polyolefin ( $\delta_{po}$ ), both determined at 453 K.
4. Process according to claim 3, wherein  $\delta_r$  has a value of at least 1.2.
- 15 5. Process according to anyone of claims 3-4, wherein the  $\delta_{per}$  is at least equal to the solubility-parameter of the rubber ( $\delta_{rub}$ ).
6. Process according to anyone of claims 1-5, wherein the TPV is prepared via dynamic vulcanization.
7. Process according to anyone of claims 1-6, wherein the polyolefin is selected 20 from the group comprising polyethylene and polypropylene.
8. Process according to anyone of claims 1-7, wherein the rubber is selected from the group comprising EA(D)M, (hydrogenated), styrenic block copolymers, and (H)NBR rubber.
9. Process according to anyone of claims 1-8, wherein the peroxide has at least 25 two carbon-carbon double bonds in the molecule.
10. Process according to anyone of claims 1-9, wherein the peroxide has a triazine nucleus in its molecule.
11. Process according to anyone of claims 1-10, wherein the TPV is prepared by 30 dynamically vulcanizing a mixture of polypropylene, EPM or EPDM, and a peroxide having a triazine nucleus in its molecule.
12. Process according to anyone of claims 1-11, wherein the crosslink density of the rubber in the TPV, determined as a gel content in boiling xylene, is at least 90 %.
13. Process according to claim 12, wherein the crosslink density is at least 95 %.

14. Process according to anyone of claims 1-13, wherein the amount of peroxide is from 0.5 to 5.0 parts by weight per hundred parts by weight of rubber.
15. Thermoplastic vulcanizate (TPV), obtainable by a process according to anyone of claims 1-14.
- 5 16. Article, comprising a TPV of claim 15, or a TPV prepared according to a process of anyone of claims 1-14.